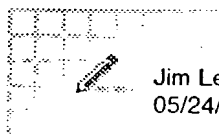


**ATTACHMENT B**



Jim Leonard  
05/24/98 02:38 PM

To: Daniel P Morris/Watson/IBM@IBMUS  
cc:  
From:  
Subject: Layered Like or Type

Dan,

For Layered Like or Type, here are some article abstracts. One book was found for Layered Type.

Article listing are from a search of INSPEC on DIALOG.

If citation information is needed, let me know.

All the best,

Jim

James W. Leonard, Reference Librarian, Watson Library Services. Room 16-240  
IBM TJ Watson Research Center,  
Route 134, Yorktown Hts. NY 10598.  
jwl@us.ibm.com  
Voice=(914) 945 3468; Fax=(914) 945 4144

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File 2:INSPEC 1969-1998/May W3  
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Layered like

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?•s layered()like
      23991 LAYERED
      136878 LIKE
      S13 5 LAYERED()LIKE
?•s s13 and py=1969:1985
      5 S13
      2642109 PY=1969 : PY=1985
      S14 1 S13 AND PY=1969:1985
?•t 14/7/1
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14/7/1  
DIALOG(R)File 2:INSPEC  
(c) 1998 Institution of Electrical Engineers. All rts. reserv.

02401641 INSPEC Abstract Number: A85032877

Title: Polymorphism of diphthalocyanine-neodymium. Molecular and crystal structure of beta phase

Author(s): Darovskikh, A.N.; Tsytsenko, A.K.; Frank-Kamenetskaya, O.V.; Fundamenskii, V.S.; Moskalev, P.N.

Author Affiliation: Inst. of Nucl. Phys., Acad. of Sci., Leningrad, USSR  
 Journal: Kristallografiya vol.29, no.3 p.455-61  
 Publication Date: May-June 1984 Country of Publication: USSR  
 CODEN: KRISAJ ISSN: 0023-4761  
 Translated in: Soviet Physics - Crystallography vol.29, no.3 p.273-6  
 Publication Date: May-June 1984 Country of Publication: USA  
 CODEN: SPHCA6 ISSN: 0038-5638  
 U.S. Copyright Clearance Center Code: 0038-5638/84/030273-04\$03.90  
 Language: English Document Type: Journal Paper (JP)  
 Treatment: Experimental (X)

Abstract: X-ray structural analysis reveals that diphthalocyanine-neodymium, with the composition  $\text{PcNdPc}/\text{sub ox}/ (\text{Pc}=(\text{C}/\text{sub } 32/\text{H}/\text{sub } 16/\text{N}/\text{sub } 8)/\text{sup } 2-/, \text{Pc}/\text{sub ox}/=(\text{C}/\text{sub } 32/\text{H}/\text{sub } 16/\text{N}/\text{sub } 8)/\text{sup } 1-/) exists in three polymorphic modifications-tetragonal alpha, orthorhombic gamma, and monoclinic beta. Determination of the crystal structure of the beta phase ( $\text{P2}/\text{sub } 1/$  automatic diffractometer, theta -2 theta method, Mo K alpha,  $R=0.052$ ) revealed that it is of the structural type  $\text{Pc}/\text{sub } 2/\text{U}$ . The sandwich molecules are packed in layers parallel to the ac plane. The metal-ligand distance in the structure of  $\text{Pc}/\text{sub } 2/\text{M}$  (where M is a metal ion) is explained by the ratio between the ionic radii ( $r/\text{sub Nd}/>r/\text{sub u}/>r/\text{sub Sn}/$ ). The angle of relative rotation of the ligands is apparently determined by the character of the packing. Comparing the identity periods  $T/\text{sub perpendicular}$  to / perpendicular to the layers of molecules in the alpha, beta, and gamma modifications of diphthalocyanine-neodymium ( $2T/\text{sup alpha } //\text{sub } (001)/=T/\text{sup beta } //\text{sub } (001)/\sin \beta =T/\text{sup gamma } //\text{sub } (101)/$ ), one sees that the M-ligand distances are stable in these structures. The relation between the periods  $T/\text{sup beta } //\text{sub } (100)/$  approximately= $T/\text{sup beta } //\text{sub } (010)/$  approximately= $1/2T/\text{sub } (110)/\text{sup alpha } /$  in the alpha and beta phases shows that the tetragonal structure is evidently layered like the beta phase. (10 Refs)$

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Layered type

?s layered()type  
     23991 LAYERED  
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     S15 80 LAYERED()TYPE  
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     80 S15  
     2642109 PY=1969 : PY=1985  
     S16 15 S15 AND PY=1969:1985  
 ?t 16/7/1-15

16/7/1  
 DIALOG(R)File 2:INSPEC  
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02616964 INSPEC Abstract Number: B86015292  
 Title: A study of the breakdown mechanism in dual-layer MOS capacitor dielectrics  
 Author(s): Domangue, E.; Hickman, T.; Pyle, R.; Rivera, R.  
 Author Affiliation: Motorola Inc., Austin, TX, USA  
 Conference Title: 35th Electronic Components Conference (Cat. No. 85CH2184-0) p.396-9  
 Publisher: IEEE, New York, NY, USA  
 Publication Date: 1985 Country of Publication: USA 516 pp.  
 U.S. Copyright Clearance Center Code: 0569-5503/85/0000-0396\$01.00  
 Conference Sponsor: IEEE; Electron. Ind. Assoc  
 Conference Date: 20-22 May 1985 Conference Location: Washington, DC, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Experimental (X)

Abstract: The time to break down distribution of MOS capacitors fabricated with a multilayer dielectric was studied. The dielectric was composed of 10 nm of thermal silicon dioxide, 15 nm of LPCVD silicon nitride, and 1-3 nm of SiO<sub>2</sub>/sub 2/ thermally grown on the Si/sub 3/N/sub 4/ layer. The test capacitor was constructed with paralleled storage cells in a 64K dynamic memory device. Various electric fields and temperatures were used to stress the layered type of capacitors and a control group consisting of the same vehicle but having a 39 nm silicon dioxide dielectric. Stressed units were physically analyzed to isolate the failure sites. The type and location of the dielectric breakdown faults were found to be similar in both types of dielectric structure. The layered dielectric demonstrated superior reliability, however, which is attributed to lower defectivity or the spatial variation of the applied electric field within the structure. (9 Refs)

16/7/2

DIALOG(R)File 2:INSPEC

(c) 1998 Institution of Electrical Engineers. All rts. reserv.

02506581 INSPEC Abstract Number: A85096207

Title: Reflectivity, joint density of states and band structure of group IVb transition-metal dichalcogenides

Author(s): Bayliss, S.C.; Liang, W.Y.

Author Affiliation: Cavendish Lab., Cambridge Univ., UK

Journal: Journal of Physics C (Solid State Physics) vol.18, no.17

p.3327-35

Publication Date: 20 June 1985 Country of Publication: UK

CODEN: JPSOAW ISSN: 0022-3719

U.S. Copyright Clearance Center Code: 0022-3719/85/173327+09\$02.25

Language: English Document Type: Journal Paper (JP)

Treatment: Experimental (X)

Abstract: Optical joint density of states (OJDOS) functions have been obtained from Kramers-Kronig analysis of reflectivity measurements for the layered-type materials TiS/sub 2/, TiSe/sub 2/, ZrS/sub 2/, ZrSe/sub 2/, HfS/sub 2/ and HfSe/sub 2/. The reflectivity measurements were made at near-normal incidence over the photon energy range 0.6-14 eV at 77K. Comparison of the OJDOS functions shows that there are many similarities in the band shapes which can be explained in terms of the amount of trigonal distortion present in the crystal lattice and the differences in binding energy of electron levels in the atoms. (9 Refs)

16/7/3

DIALOG(R)File 2:INSPEC

(c) 1998 Institution of Electrical Engineers. All rts. reserv.

02225943 INSPEC Abstract Number: A84041348, B84023254

Title: Hydriodic acid photodecomposition on layered-type transition metal dichalcogenides

Author(s): Bicelli, L.P.; Razzini, G.

Author Affiliation: Dept. of Appl. Phys. Chem., Milan Polytech., Milan, Italy

Journal: Surface Technology vol.20, no.4 p.393-403

Publication Date: Dec. 1983 Country of Publication: Switzerland

CODEN: SUTED8 ISSN: 0376-4583

U.S. Copyright Clearance Center Code: 0376-4583/83/\$3.00

Language: English Document Type: Journal Paper (JP)

Treatment: Experimental (X)

Abstract: The photodecomposition of hydriodic acid on platinized n-WSe/sub 2/ single crystals immersed in an aqueous 1 M HI solution was studied. During the photodecomposition process, hydrogen evolution only

occurred on the microscopic defects of the sample surface, whereas iodine was produced on the smooth areas where a diffuse orange-red colouring appeared. For polycrystalline specimens, however, hydrogen gas bubbles were formed over the entire surface, the rate of process being markedly slower than on single crystals. The results are discussed with the assumptions that the n-WSe/sub 2/ single crystals behave as Schottky-type photochemical diodes, that the cathodic reaction takes place on the stepped platinum-covered areas and that the anodic reaction occurs on the smooth unplatinated areas. (26 Refs)

16/7/4

DIALOG(R)File 2:INSPEC

(c) 1998 Institution of Electrical Engineers. All rts. reserv.

02085031 INSPEC Abstract Number: A83077984, B83041973

Title: Mechanistic studies of reversible layer-type electrodes

Author(s): Rouxel, J.; Molinie, P.; Top, L.H.

Author Affiliation: Lab. de Chimie des Solides, Nantes, France

Journal: Journal of Power Sources vol.9, no.3-4 p.345-57

Publication Date: April-May 1983 Country of Publication: Switzerland

CODEN: JPSODZ ISSN: 0378-7753

U.S. Copyright Clearance Center Code: 0378-7753/83/0000-0000/\$3.00

Conference Title: International Meeting on Lithium Batteries

Conference Date: 27-29 April 1982 Conference Location: Rome, Italy

Language: English Document Type: Conference Paper (PA); Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: In layered type intercalation electrodes ions are stored reversibly during the functioning of secondary batteries. The behaviour of the system depends on geometrical and electronic factors. The geometrical factors are concerned with the localization of the ions in the host structure; they deal with average structure determinations and local ordering problems. The diffusion properties of the intercalated ions depend on the site geometry, the population of the Van Der Waals gap, the ionicity of the bonds in the host, the stoichiometry of the host, and the mechanical properties of its slabs. Electrons have to be accommodated by the host. The band structure of the host plays an important role in respect of the ability to intercalate, the phase limit, and the stability of the products. Metal-insulator transition may be induced. Other possible factors such as Jahn-Teller effects have also to be considered. (23 Refs)

16/7/5

DIALOG(R)File 2:INSPEC

(c) 1998 Institution of Electrical Engineers. All rts. reserv.

01994480 INSPEC Abstract Number: A83023215

Title: Structure of tungstic acids and amorphous and crystalline WO/sub 3/ thin films

Author(s): Ramans, G.M.; Gabrusenoks, J.V.; Veispals, A.A.

Author Affiliation: Inst. of Solid State Phys., P. Stucka Univ., Riga, USSR

Journal: Physica Status Solidi A vol.74, no.1 p.K41-4

Publication Date: 16 Nov. 1982 Country of Publication: East Germany

CODEN: PSSABA ISSN: 0031-8965

Language: English Document Type: Journal Paper (JP)

Treatment: Experimental (X)

Abstract: The authors compare the Raman spectra of a-WO/sub 3/ with spectra of crystalline WO/sub 3/.H/sub 2/O, WO/sub 3/.2H/sub 2/O and amorphous bulk WO/sub 3/.H/sub 2/O. It is concluded from the results that the structure of a-WO/sub 3/ films consists of a layered type structure of tungsten hydrates and of a framework structure of tungsten anhydride. The band at 590 cm/sup -1/ is attributed to stretching modes of the terminal

oxygen. By dehydration of amorphous  $\text{WO}_3 \cdot 1.74 \text{H}_2\text{O}$  one can get amorphous bulk samples with a structure similar to the  $\text{a-WO}_3$  thin films. (12 Refs)

16/7/6

DIALOG(R)File 2:INSPEC

(c) 1998 Institution of Electrical Engineers. All rts. reserv.

01973788 INSPEC Abstract Number: A83008001

Title: Synthesis of new layered-type and new mixed-layered-type bismuth compounds

Author(s): Kodama, H.; Watanabe, A.

Author Affiliation: Nat. Inst. for Res. in Inorganic Materials, Ibaraki, Japan

Journal: Journal of Solid State Chemistry vol.44, no.2 p.169-73

Publication Date: Sept. 1982 Country of Publication: USA

CODEN: JSSCBI ISSN: 0022-4596

U.S. Copyright Clearance Center Code: 0022-4596/82/110169-05\$02.00/0

Language: English Document Type: Journal Paper (JP)

Treatment: Experimental (X)

Abstract: Four new compounds,  $\text{PbBi}/\text{sub } 2/\text{TiTaO}/\text{sub } 8/\text{F}$ ,  $\text{PbBi}/\text{sub } 2/\text{TiNbO}/\text{sub } 8/\text{F}$ ,  $\text{Bi}/\text{sub } 5/\text{Ti}/\text{sub } 2/\text{WO}/\text{sub } 14/\text{F}$ , and  $\text{Bi}/\text{sub } 7/\text{Ti}/\text{sub } 5/\text{O}/\text{sub } 20/\text{F}$ , were prepared and identified by X-ray diffraction analysis. Two of them are new members of a family called layered bismuth compounds. The other two are new members of a family called mixed-layered bismuth compounds. Thermal properties of the new compounds were studied. Moreover, the possibility of the existence of other new members belonging to the family called mixed-layered bismuth compounds is discussed. (14 Refs)

16/7/7

DIALOG(R)File 2:INSPEC

(c) 1998 Institution of Electrical Engineers. All rts. reserv.

01891945 INSPEC Abstract Number: A82076639

Title: The phase relations in the  $\text{Yb}/\text{sub } 2/\text{O}/\text{sub } 3/-\text{Fe}/\text{sub } 2/\text{O}/\text{sub } 3/-\text{MO}$  systems in air at high temperatures (M: Co, Ni, Cu, and Zn)

Author(s): Kimizuka, N.; Takayama, E.

Author Affiliation: Nat. Inst. for Res. in Inorganic Materials, Ibaraki-ken, Japan

Journal: Journal of Solid State Chemistry vol.42, no.1 p.22-7

Publication Date: 15 March 1982 Country of Publication: USA

CODEN: JSSCBI ISSN: 0022-4596

Language: English Document Type: Journal Paper (JP)

Treatment: Experimental (X)

Abstract: The phase relations in the  $\text{Yb}/\text{sub } 2/\text{O}/\text{sub } 3/-\text{Fe}/\text{sub } 2/\text{O}/\text{sub } 3/-\text{CoO}$  system at 1350 and 1300 degrees C, the  $\text{Yb}/\text{sub } 2/\text{O}/\text{sub } 3/-\text{Fe}/\text{sub } 2/\text{O}/\text{sub } 3/-\text{NiO}$  system at 1300 and 1200 degrees C, the  $\text{Yb}/\text{sub } 2/\text{O}/\text{sub } 3/-\text{Fe}/\text{sub } 2/\text{O}/\text{sub } 3/-\text{CuO}$  system at 1000 degrees C and the  $\text{Yb}/\text{sub } 2/\text{O}/\text{sub } 3/-\text{Fe}/\text{sub } 2/\text{O}/\text{sub } 3/-\text{ZnO}$  system at 1300 degrees C were determined in air by means of a classical quenching method. New layered-type compounds,  $\text{YbFeCoO}/\text{sub } 4/$  ( $a=3.4295(5)$  AA,  $c=25.198(3)$  AA),  $\text{YbFeCuO}/\text{sub } 4/$  ( $a=3.4808(2)$  AA,  $c=24.100(2)$  AA), and  $\text{YbFeZnO}/\text{sub } 4/$  ( $a=3.4251(2)$  AA,  $c=25.282(2)$  AA), which are isomorphous with  $\text{YbFe}/\text{sub } 2/\text{O}/\text{sub } 4/$  (space group:  $R\bar{3}m$ ;  $a=3.455(1)$  AA,  $c=25.109(2)$  AA), and a new compound,  $\text{Yb}/\text{sub } 2/\text{Cu}/\text{sub } 2/\text{O}/\text{sub } 5/$ , were obtained. In the  $\text{Yb}/\text{sub } 2/\text{O}/\text{sub } 3/-\text{Fe}/\text{sub } 2/\text{O}/\text{sub } 3/-\text{NiO}$  system, there are no quaternary compounds. (10 Refs)

16/7/8

DIALOG(R)File 2:INSPEC

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01816212 INSPEC Abstract Number: C82012609

Title: Office automation technology-storage and retrieval of information

Author(s): Kurachi, T.

Author Affiliation: Toshiba Corp., Ome-shi, Japan

Journal: Journal of the Institute of Electronics and Communication Engineers of Japan vol.64, no.2 p.143-9

Publication Date: Feb. 1981 Country of Publication: Japan

CODEN: IECJAJ ISSN: 0373-6121

Language: Japanese Document Type: Journal Paper (JP)

Treatment: Applications (A); Practical (P)

Abstract: The file compositions ordered using link and direct using a page map and B tree type retrieval order are described. Layered type data models as in IBM's IMS, and the MRI System 2000, network type data models as in GE's IDS and Cineam Systems' TOTAL, relational type data model as in IBM's System R and Software AG's ADABAS and distributed type data base are also described. The types of retrieval and their call words are discussed and exemplified. Floppy disc, magnetic drum, magnetic disk, large capacity memory devices and backend systems and database machines are discussed. Micrographics and graphic information files are briefly discussed. (13 Refs)

16/7/9

DIALOG(R)File 2:INSPEC

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01587609 INSPEC Abstract Number: A80098966

Title: A method of measurement of the refractive indices of crystals with layered structure

Author(s): Allakhverdiev, K.R.; Guliev, R.I.; Salaev, E.Yu.; Kulevskii, L.A.; Savelev, A.D.; Smirnov, V.V.

Author Affiliation: Inst. of Phys., Acad. of Sci., Baku, Azerbaidzhan SSR, USSR

Journal: Physica Status Solidi A vol.60, no.1 p.309-12

Publication Date: 16 July 1980 Country of Publication: East Germany

CODEN: PSSABA ISSN: 0031-8965

Language: English Document Type: Journal Paper (JP)

Treatment: New Developments (N); Experimental (X)

Abstract: A method of determining the refractive indices of the ordinary ( $n_o$ ) and extraordinary ( $n_e$ ) rays in crystals with layered type structure are described. The refractive indices of layered CdInGaS<sub>4</sub> and TlInS<sub>2</sub> are measured using this technique with the help of laser radiation source at 0.63, 1.15, and 3.39  $\mu$ m. The experimentally obtained values of  $n_o$  and  $n_e$  are extrapolated from 0.6 to 4.0  $\mu$ m by the formulas  $n_o^2 = A + B(\lambda^2 + C)$ ;  $n_e^2 = K + L/(\lambda^2 + M)$ . The values of the extrapolation coefficients A, B, C, K, L, and M for CdInGaS<sub>4</sub> and TlInS<sub>2</sub> crystals are obtained using the electronic computer Mir-2. (4 Refs)

16/7/10

DIALOG(R)File 2:INSPEC

(c) 1998 Institution of Electrical Engineers. All rts. reserv.

01496111 INSPEC Abstract Number: B80019231

Title: Fabrication of 8 turn multi-track thin film heads

Author(s): Hanazono, M.; Kawakami, K.; Narishige, S.; Asai, O.; Kaneko, E.; Okuda, K.; Ono, K.; Tsuchiya, H.; Hayakawa, W.

Author Affiliation: Hitachi Res. Lab., Hitachi Ltd., Ibaraki, Japan

Journal: IEEE Transactions on Magnetics vol.MAG-15, no.6 p.1616-18

Publication Date: Nov. 1979 Country of Publication: USA

CODEN: IEMGAQ ISSN: 0018-9464

Conference Title: Joint INTERMAG-MMM Conference

Conference Sponsor: IEEE

Conference Date: 17-20 July 1979      Conference Location: New York, NY, USA

Language: English      Document Type: Conference Paper (PA); Journal Paper (JP)

Treatment: Practical (P)

Abstract: To obtain high bit and high track densities, fabrication of thin film magnetic recording heads have been studied by a number of companies. The authors describe a newly developed method for fabricating layered type, multi-turn, multi-track thin film inductive heads with a central tap by using photolithographic and thin film deposition techniques. (6 Refs)

16/7/11

DIALOG(R)File    2:INSPEC

(c) 1998 Institution of Electrical Engineers. All rts. reserv.

01406419    INSPEC Abstract Number: A79086309

Title: A theoretical study of the effects of various laryngeal configurations on the acoustics of phonation

Author(s): Titze, I.R.; Talkin, D.T.

Author Affiliation: Sensory Communication Res. Lab., Gallaudet Coll., Washington, DC, USA

Journal: Journal of the Acoustical Society of America      vol.66, no.1  
p.60-74

Publication Date: July 1979      Country of Publication: USA

CODEN: JASMAN    ISSN: 0001-4966

Language: English      Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: Simulation of glottal volume flow and vocal fold tissue movement was accomplished by numerical solution of a time-dependent boundary value problem in which nonuniform, orthotropic, linear, incompressible vocal fold tissue media were surrounded by irregularly shaped boundaries, which were either fixed or subject to aerodynamic stresses. Spatial nonuniformity of the tissues was of the layered type, including a mucosal layer, a ligamental layer, and muscular layers. Orthotropy was required to stabilize the vocal folds longitudinally and to accommodate large variations in muscular stress. Incompressibility and vertical motions at the glottis played an important role in producing and sustaining phonation. A nominal configuration for male fundamental speaking pitches was selected, and the regulation of fundamental frequency, intensity, average volume flow, and vocal efficiency was investigated in terms of variations around this nominal configuration. Vocal intensity and efficiency are shown to have local maxima as the configurational parameters are varied one at a time. It appears that oral acoustic power output and vocal efficiency can be maximized by proper adjustments of longitudinal tension of nonmuscular (mucosal and ligamental) tissue layers in relation to muscular layers. Quantitative verification of the 'body-cover' theory is therefore suggested, and several further implications with regard to control of the human larynx are considered. (17 Refs)

16/7/12

DIALOG(R)File    2:INSPEC

(c) 1998 Institution of Electrical Engineers. All rts. reserv.

01295844    INSPEC Abstract Number: A79010903

Title: Optical phonons in TlInS/sub 2/

Author(s): Allakhverdiev, K.R.; Adigezalov, U.V.; Nani, R.Kh.; Yusifov, Yu.G.

Journal: Izvestiya Akademii Nauk Azerbaidzhanskoi SSR, Seriya Fiziko-Tekhnicheskikh i Matematicheskikh Nauk      no.1      p.21-5

Publication Date: 1978      Country of Publication: USSR

CODEN: IAFMAF    ISSN: 0002-3108



Language: Russian Document Type: Journal Paper (JP)

Treatment: Experimental (X)

Abstract: The optical phonons of a wide gap semiconducting  $\text{TlInS}/\text{sub } 2/$  which has a layered type structure have been investigated by the method of long-wavelength infra-red (JR) and Raman scattering spectroscopy. The splitting of absorption bands is observed when the crystals are cooled down to 100K. The comparison of phonon frequencies determined from JR and Raman experiments revealed  $\text{TlInS}/\text{sub } 2/$  to be centrosymmetric. (10 Refs)

16/7/13

DIALOG(R)File 2:INSPEC

(c) 1998 Institution of Electrical Engineers. All rts. reserv.

01081136 INSPEC Abstract Number: A77063130

Title: Field dependence of the susceptibility maximum for two-dimensional antiferromagnet

Author(s): Mostafa, M.F.; Semary, M.A.; Ahmed, M.A.

Author Affiliation: Dept. of Phys., Faculty of Sci., Cairo Univ., Cairo, Egypt

Journal: Physics Letters A vol.61A, no.3 p.183-4

Publication Date: 2 May 1977 Country of Publication: Netherlands

CODEN: PYLAAG ISSN: 0375-9601

Language: English Document Type: Journal Paper (JP)

Treatment: Experimental (X)

Abstract: The magnetic susceptibility measurements on layered type structure  $(\text{CH}/\text{sub } 3/\text{NH}/\text{sub } 3/)/\text{sub } 2/\text{FeCl}/\text{sub } 2/\text{Br}/\text{sub } 2/$  revealed a transition temperature  $T/\text{sub } \text{N}/(\text{H}=0)$  approximately=100K. The transition temperature of  $(\text{CH}/\text{sub } 3/\text{NH}/\text{sub } 3/)/\text{sub } 2/\text{FeCl}/\text{sub } 4/$  was previously found to be  $T/\text{sub } \text{N}/(\text{H}=0)$  approximately=95K. The effect of magnetic field on the transition temperature and peak intensity for both compounds has been investigated. (7 Refs)

16/7/14

DIALOG(R)File 2:INSPEC

(c) 1998 Institution of Electrical Engineers. All rts. reserv.

00360679 INSPEC Abstract Number: A72019924

Title: Magnetic ordering in  $\text{LiCr}/\text{sub } 1-x/\text{Fe}/\text{sub } x/\text{O}/\text{sub } 2/$

Author(s): Tauber, A.; Moller, W.M.; Banks, E.

Author Affiliation: US Army Electronics Command, Fort Monmouth, N.J., USA

Journal: Journal of Solid State Chemistry vol.4, no.1 p.138-52

Publication Date: Jan. 1972 Country of Publication: USA

CODEN: JSSCBI ISSN: 0022-4596

Language: English Document Type: Journal Paper (JP)

Treatment: Experimental (X)

Abstract: Magnetic ordering in the  $\text{LiCr}/\text{sub } 1-x/\text{Fe}/\text{sub } x/\text{O}/\text{sub } 2/$  system has been investigated for polycrystal and single crystal specimens characterized by optical and X-ray diffraction techniques. Part of the  $\text{Li}/\text{sub } 2/\text{O}-\text{Fe}/\text{sub } 2/\text{O}/\text{sub } 3/-\text{Cr}/\text{sub } 2/\text{O}/\text{sub } 3/$  system was also investigated. Magnetization and susceptibility measurements from 4.2 to 900K and Mossbauer measurements from 4.2 to 300K indicate that all compositions of ordered rocksalt (space group  $R3m$ ) order antiferromagnetically at low temperatures. The first-order phase transition tracked with all Mossbauer parameters. The Weiss molecular field theory for a layered-type antiferromagnet was fitted with two exchange constants. The dependence of  $\theta$  on  $x$  was found to be  $\theta = \theta_a/(1-x)^{2/3} + \theta_b/2x(1-x) + \theta_c/x$ , where  $\theta_a = \text{Cr}/\text{sub } 3+/-\text{Cr}/\text{sub } 3+/-$  interaction,  $\theta_b = \text{Fe}/\text{sub } 3+/-\text{Cr}/\text{sub } 3+/-$  interaction and  $\theta_c = \text{Fe}/\text{sub } 3+/-\text{Fe}/\text{sub } 3+/-$  interaction. A spontaneous magnetization associated with iron-substituted crystals originated with an epitaxial overgrowth of  $\text{LiCr}/\text{sub } 4.75/\text{Fe}/\text{sub } 0.25/\text{O}/\text{sub } 2/$

8/. (29 Refs)

16/7/15

DIALOG(R)File 2:INSPEC

(c) 1998 Institution of Electrical Engineers. All rts. reserv.

00301052 INSPEC Abstract Number: C71019443

Title: A static and dynamic finite element shell-analysis with experimental verification

Author(s): Klein, S.

Author Affiliation: Aerospace Corp., San Bernardino, CA, USA

Journal: International Journal for Numerical Methods in Engineering  
vol.3, no.3 p.299-316

Publication Date: July-Sept. 1971 Country of Publication: UK

CODEN: IJNMBH ISSN: 0029-5981

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: A system of finite element shell analysis codes, called SABOR/DRASTIC, is used to analyse a complex two-layered shell of revolution under static and dynamic asymmetric loads. The dynamic analysis is compared with experimentally measured response. In this linear elastic analysis, emphasis is placed on the inherent flexibility of the finite element method in modelling the complex structural geometry of a given test specimen. Static studies, which involve variations in important shell parameters, and dynamic studies, which provide a successful correlation with experiment, are used to illustrate both the detail and the generality with which shell analyses may now be performed with confidence.

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Layered Like books = 0

43=> f (layered-like) or (layered w like)

Searching ...

S E A R C H R E S U L T S

Search ID	Records Found	Search Term
S43	0	layered-like
S44	1440	layered
S45	57219	like
S46	0	(layered-like) or (layered w like)

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Layered Type books = 1

47=> f (layered-type) or (layered w type)

Searching ...

S E A R C H R E S U L T S

Search ID	Records Found	Search Term
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S47           0    layered-type  
S48           1440   layered  
S49           82277   type  
S50           1    (layered-type) or (layered w type)

51=> f s50 and yr < 1986

Searching ...

S E A R C H   R E S U L T S

Search ID	Records Found	Search Term
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S51	1	s50 and yr < 1986
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52=> d s51 1 f8

R e c o r d   1   o f   1

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Page: 1 of 1

AN: 23935341

AU: Lee, Harry Nai-Shee, 1942-

TI: Electrical transport properties of some hexagonal layered type  
transition metal chalcogenides.

YR: 1969

LN: English

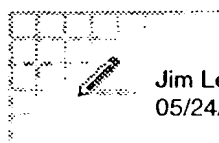
PT: Book

PH: ix, 83 l. charts, diagrs. 28 cm.

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\*\*\*\*\*

ATTACHMENT C



Jim Leonard  
05/24/98 02:27 PM

To: Daniel P Morris/Watson/IBM@IBMUS  
cc:  
From:  
Subject: Rare Earth Like or Type

Dan,

For Rare Earth Like or Type, here are some article abstracts. No books were found.

Article listing are from a search of INSPEC on DIALOG.

If citation information is needed, let me know.

All the best,

Jim  
James W. Leonard, Reference Librarian, Watson Library Services. Room 16-240  
IBM TJ Watson Research Center,  
Route 134, Yorktown Hts. NY 10598.  
jwl@us.ibm.com  
Voice=(914) 945 3468; Fax=(914) 945 4144

\*\*\*\*\*

File 2:INSPEC 1969-1998/May W3  
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\*\*\*\*\*

Rare Earth like

```
?*s rare()earth()like
      37833 RARE
      103240 EARTH (January 1969)
      136878 LIKE
      S5      10 RARE()EARTH()LIKE
?*s s5 and py=1969:1985
      10 S5
      2642109 PY=1969 : PY=1985
      S6      4 S5 AND PY=1969:1985
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?\*t 6/7/1-4

6/7/1  
DIALOG(R)File 2:INSPEC  
(c) 1998 Institution of Electrical Engineers. All rts. reserv.

01990663 INSPEC Abstract Number: A83018861

Title: Rare earths and actinides  
Author(s): Coqblin, B.  
Author Affiliation: Lab. de Phys. des Solides, Univ. Paris-Sud, Centre d'Orsay, Orsay, France  
Journal: Journal of Magnetism and Magnetic Materials vol.29, no.1-3 p.1-19  
Publication Date: Oct. 1982 Country of Publication: Netherlands  
CODEN: JMMDC ISSN: 0304-8853  
U.S. Copyright Clearance Center Code: 0304-8853/82/0000-0000/\$02.75  
Conference Title: Proceedings of the 4th European Conference on Rare Earths and Actinides  
Conference Date: 28-31 March 1982 Conference Location: Durham, UK  
Language: English Document Type: Conference Paper (PA); Journal Paper (JP)

Treatment: Bibliography (B); General, Review (G)  
Abstract: Reviews the different properties of rare-earths and actinides, either as pure metals or as in alloys or compounds. Three different cases are considered: (i) in the case of 'normal' rare-earths which are characterized by a valence of 3, the author discusses essentially the magnetic ordering, the coexistence between superconductivity and magnetism and the properties of amorphous rare-earth systems; (ii) in the case of 'anomalous' rare-earths, 'intermediate-valence' systems and 'Kondo' systems are distinguished. Special emphasis is given to the problems of the 'Kondo lattice' (for compounds such as CeAl/sub 2/, CeAl/sub 3/ or CeB/sub 6/) or the 'Anderson lattice' (for compounds such as TmSe). The problem of neutron diffraction in these systems is also discussed; and (iii) in the case of actinides, the d-f hybridized and almost magnetic metals at the beginning of the series are separated from the rare-earth like metals after americium. (193 Refs)

6/7/2  
DIALOG(R)File 2:INSPEC  
(c) 1998 Institution of Electrical Engineers. All rts. reserv.

01381163 INSPEC Abstract Number: A79069701  
Title: Magnetic properties of amorphous alloys of Fe and La, Lu, Y, and Zr  
Author(s): Heiman, N.; Kazama, N.  
Author Affiliation: IBM Res. Lab., San Jose, CA, USA  
Journal: Physical Review B (Condensed Matter) vol.19, no.3 p.1623-32  
Publication Date: 1 Feb. 1979 Country of Publication: USA  
CODEN: PRBMDO ISSN: 0163-1829  
Language: English Document Type: Journal Paper (JP)  
Treatment: Experimental (X)  
Abstract: In order to study the systematics of the Fe-Fe exchange in amorphous rare-earth-Fe alloys, without the complications associated with the magnetic characteristics of the rare-earth elements, amorphous films of Fe alloyed with La, Lu, Y, and Zr have been prepared with a wide range of Fe concentrations. Magnetization and Mossbauer-effect measurements were made. The magnetic properties of the alloys depended critically on the choice of rare earth (or rare-earth-like element). YFe and LuFe alloys were found to have spin-glass characteristics while LaFe and ZrFe alloys were found to be ferromagnetic, but with evidence that exchange fluctuations were nearly as large as the average exchange. Thus the nature of the Fe-Fe exchange interaction depends critically upon the species of the rare earth. The most important parameter in determining the magnetic behavior of these alloys appears to be the size of the rare-earth atom, with large rare-earth atoms resulting in a smaller ratio of exchange fluctuations to exchange. The same dependence of the magnetic properties upon rare-earth size appears to be important in the case of magnetic-rare-earth atoms; however, the effect of rare-earth-Fe exchange also becomes important and these effects are discussed. (30 Refs)

6/7/3  
DIALOG(R)File 2:INSPEC  
(c) 1998 Institution of Electrical Engineers. All rts. reserv.

00692540 INSPEC Abstract Number: A74076053  
Title: Crystal fields in dilute rare-earth metals obtained from magnetization measurements on dilute rare-earth alloys  
Author(s): Touborg, P.; Hog, J.  
Author Affiliation: Tech. Univ., Lyngby, Denmark  
Journal: Physical Review Letters vol.33, no.13 p.775-8  
Publication Date: 23 Sept. 1974 Country of Publication: USA  
CODEN: PRLTAO ISSN: 0031-9007  
Language: English Document Type: Journal Paper (JP)  
Treatment: Experimental (X)  
Abstract: Measurements of the crystal field parameters of rare earth metals can be obtained by diluting the rare earths in nonmagnetic rare earth-like hosts. Alloys of terbium, dysprosium, and erbium with scandium, yttrium and lutetium hosts were prepared and crystal field parameters determined from magnetisation measurements. An unsystematic relationship was found between crystal field parameters and rare earth atomic number. (17 Refs)

6/7/4  
DIALOG(R)File 2:INSPEC  
(c) 1998 Institution of Electrical Engineers. All rts. reserv.

00258862 INSPEC Abstract Number: A71036349  
Title: The effective size of americium dissolved in lanthanum (and superconducting transition temperature of La-Al alloys)  
Author(s): Hill, H.H.; Ellinger, F.H.  
Journal: Journal of the Less-Common Metals vol.23, no.1 p.92-4  
Publication Date: Jan. 1971 Country of Publication: Switzerland  
CODEN: JCOMAH ISSN: 0022-5088  
Language: English Document Type: Journal Paper (JP)  
Treatment: Experimental (X)  
Abstract: The lattice parameters of alloys of f.c.c. beta -La containing 1.25 to 3.70 at% Am are determined by X-ray analysis. It is found that the effective ionic size of the dissolved Am is very close to that of elemental Am itself. The unusually weak depression of the superconducting transition temperature of beta -La caused by the addition of small amounts of Am is discussed. It is suggested that Am ions in La exhibit rare earth-like characteristics of trivalency and a localized d-electron configuration. (11 Refs)

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#### Rare Earth type

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?•s rare()earth()type
      37833 RARE
      103240 EARTH (January 1969)
      419473 TYPE
      S7      10 RARE()EARTH()TYPE
?•s s7 and py=1969:1985
      10 S7
      2642109 PY=1969 : PY=1985
      S8      3 S7 AND PY=1969:1985
?•t 8/7/1-3
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8/7/1  
DIALOG(R)File 2:INSPEC

(c) 1998 Institution of Electrical Engineers. All rights reserved.

00926715 INSPEC Abstract Number: A76057644

Title: Lattice parameter variations in the rare earth type B and C structures

Author(s): Ferguson, I.F.

Author Affiliation: RFL, Springfield, UK

Conference Title: UKAEA Diffraction Analysis Conference, the Role of Diffraction and Electron Analysis in the Fast Reactor p.25

Editor(s): Ferguson, I.F.

Publisher: UKAEA, Warrington, Lancs., UK

Publication Date: 1975 Country of Publication: UK 74 pp.

Conference Date: 15-17 Oct. 1974 Conference Location: Dounreay, UK

Language: English Document Type: Conference Paper (PA)

Treatment: Experimental (X)

Abstract: The lattice parameters of monoclinic europia have been determined and contrasted with a range of solid solutions which have the same Rare Earth type B structure as europia. These solid solutions were based upon samaria and gadolinia which lie on either side of europia in the lanthanide series. Curiously, europia does not lie where it would be expected to lie on the lattice parameter plots on the basis of its ionic radius. This is attributed to its position in the middle of the lanthanide series. For the lanthanide oxides with the cubic Rare Earth type C structure an anomaly again occurs, but this time for gadolinia. (0 Refs)

8/7/2

DIALOG(R) File 2:INSPEC

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00279317 INSPEC Abstract Number: A71048689, B71021928

Title: Cast permanent magnets of cobalt, copper, and cerium: process and performance characteristics

Author(s): Cullen, T.J.

Author Affiliation: Sel-Rex Corp., Nutley, NJ, USA

Journal: Journal of Applied Physics vol.42, no.4 p.1535-6

Publication Date: 15 March 1971 Country of Publication: USA

CODEN: JAPIAU ISSN: 0021-8979

Conference Title: 16th annual conference on magnetism and magnetic materials

Conference Date: 17-20 Nov. 1970 Conference Location: Miami Beach, FL, USA

Language: English Document Type: Conference Paper (PA); Journal Paper (JP)

Treatment: Experimental (X)

Abstract: A process for casting magnets of the cobalt, copper, rare-earth type weighing as much as several pounds has been developed. The characteristics of the alloys are highly reproducible between castings. The uniformity of performance within a casting is excellent. The residual induction of a typical cerium alloy casting is 5600 G. The coercive force is 4800 Oe. The variation of induction with temperature in the region of a load line of 2, is 0.08%/degrees C from room temperature to 100 degrees C.

8/7/3

DIALOG(R) File 2:INSPEC

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00125174 INSPEC Abstract Number: A70028540

Title: Magnetic properties of erbium ferrite

Author(s): Apostolov, A.

Author Affiliation: Sofia Univ., Bulgaria

Journal: Comptes Rendus de l'Academie Bulgare des Sciences vol.22, no.9 p.995-8



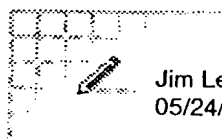
Publication Date: 1969 Country of Publication: Bulgaria  
CODEN: CRABAA ISSN: 0366-8681

Language: English Document Type: Journal Paper (JP)

Abstract: Erbium ferrite  $\text{ErFeO}_3$  is of the rare-earth type with an orthorhombic deformation and spatial group  $\text{Pbnm}$ . The authors investigate the antiferromagnetism of the rare earth around the antiferromagnetic point of Neel for erbium ions, for which they measured the magnetic properties of the substance in the entire range between 2 degrees K and 1200 degrees K.

\*\*\*\*\*

ATTACHMENT D



Jim Leonard  
05/24/98 02:22 PM

To: Daniel P Morris/Watson/IBM@IBMUS  
cc:  
From:  
Subject: Perovskite Like and Type

Dan,

For Perovskite Like or Type, here are some article abstracts and some books.

Article listing are from a search of INSPEC on DIALOG, and the book listings are from searching the EPIC OCLC database.

If citation information is needed, let me know.

All the best,

Jim

James W. Leonard, Reference Librarian, Watson Library Services. Room 16-240  
IBM TJ Watson Research Center,  
Route 134, Yorktown Hts. NY 10598.  
jwl@us.ibm.com  
Voice=(914) 945 3468; Fax=(914) 945 4144

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File 2:INSPEC 1969-1998/May W3  
(c) 1998 Institution of Electrical Engineers

Set	Items	Description
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Perovskite like

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      136878  LIKE
      S1      467  PEROVSKITE()LIKE
?*s s1 and py=1969:1985
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      2642109  PY=1969 : PY=1985
      S2      127  S1 AND PY=1969:1985
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2/7/1  
DIALOG(R)File 2:INSPEC  
(c) 1998 Institution of Electrical Engineers. All rts. reserv.

02785278 INSPEC Abstract Number: A87006595

Title: Crystal-chemical features and properties of layered bismuth vanadate-titanate

Author(s): Osipyan, V.G.; Savchenko, L.M.; Kostanyan, K.A.

Journal: Izvestiya Akademii Nauk SSSR, Neorganicheskie Materialy  
vol.21, no.11 p.1924-7

Publication Date: Nov. 1985 Country of Publication: USSR

CODEN: IVNMAW ISSN: 0002-337X

Translated in: Inorganic Materials vol.21, no.11 p.1676-9

Publication Date: Nov. 1985 Country of Publication: USA

CODEN: INOMAF ISSN: 0020-1685

U.S. Copyright Clearance Center Code: 0020-1685/85/2111-1676\$09.50

Language: English Document Type: Journal Paper (JP)

Treatment: Experimental (X)

Abstract: It has been established that  $\text{Bi}_{13}\text{V}_5\text{TiO}_{34}$  belongs to the ferroelectric family of bismuth-containing compounds with a layered compound. The formula unit  $\text{Bi}_{2/11}\text{V}_5\text{Ti}_{16}\text{O}_{52/3}$  corresponds to a layered structure of  $(\text{Bi}_{2/11}\text{O}_{20})^{2+}$  with one perovskite-like layer between ions of bismuthyl  $(\text{Bi}_{2/11}\text{O}_{20})^{2+}$ . The dielectric properties indicate that  $\text{Bi}_{13}\text{V}_5\text{TiO}_{34}$  has ferroelectric properties. The solid-phase process of formation of the compound from a mixture of the initial oxides takes place in one stage in the temperature range 600-800 degrees C. (8 Refs)

2/7/2

DIALOG(R) File 2:INSPEC

(c) 1998 Institution of Electrical Engineers. All rts. reserv.

02777488 INSPEC Abstract Number: A87003002

Title: Some optical and electrophysical properties of complexly substituted phases based on  $\text{A}_2\text{B}_2\text{O}_7$  perovskite-like ferroelectrics

Author(s): Titov, Yu.A.; Leonov, A.P.; Sych, A.M.; Stefanovich, S.Yu.; Lashneva, V.V.; Venevtsev, Yu.N.

Author Affiliation: T.G. Shevchenko Kiev State Univ., Ukrainian SSR, USSR

Journal: Izvestiya Akademii Nauk SSSR, Neorganicheskie Materialy  
vol.21, no.10 p.1739-43

Publication Date: Oct. 1985 Country of Publication: USSR

CODEN: IVNMAW ISSN: 0002-337X

Translated in: Inorganic Materials vol.21, no.10 p.1515-19

Publication Date: Oct. 1985 Country of Publication: USA

CODEN: INOMAF ISSN: 0020-1685

U.S. Copyright Clearance Center Code: 0020-1685/85/2110-1515\$09.50

Language: English Document Type: Journal Paper (JP)

Treatment: Experimental (X)

Abstract: The purpose of the present work was to precisely determine whether the structures of the complexly substituted phases are centro- or noncentrosymmetric and to evaluate some of the ferroelectric and thermal characteristics and electrical-conduction properties. The investigations of the electrophysical characteristics were carried out on ceramic samples in the form of tablets with silver electrodes. The density of the ceramics was 0.7-0.8 of the X-ray density. The differential thermal analysis in the 1000-2400 degrees C temperature range was carried out on a system based on a high-temperature furnace with a tungsten heating element. The study of the nonlinear-optical properties of the phases synthesized was carried out by a method involving the generation of the second optical harmonic of their laser emission according to the 'reflection' scheme. Samples with a grain diameter from 10 to 20  $\mu$  were used in this case. (8 Refs)

2/7/3

DIALOG(R) File 2:INSPEC

(c) 1998 Institution of Electrical Engineers. All rts. reserv.

02697831 INSPEC Abstract Number: A86086709

Title: Compositions and electrical properties of complex bismuth layer-structured ferroelectric ceramics

Author(s): Takenaka, T.; Sakata, K.

Author Affiliation: Fac. of Sci. & Technol., Sci. Univ. of Tokyo, Chiba, Japan

Journal: Japanese Journal of Applied Physics, Supplement vol.24, suppl.24-3 p.117-19

Publication Date: 1985 Country of Publication: Japan

CODEN: JJPYA5 ISSN: 0021-4922

Conference Title: Proceedings of the 5th Meeting on Ferroelectric Materials and their Applications (FMA-5)

Conference Date: 29-31 May 1985 Conference Location: Kyoto, Japan

Language: English Document Type: Conference Paper (PA); Journal Paper (JP)

Treatment: Experimental (X)

Abstract: The dielectric and piezoelectric properties of complex bismuth layer-structured ferroelectrics were studied. The Curie temperature  $T_{\text{sub c}}$  of solid solution systems based on  $\text{PbBi}/_{\text{sub } 2}/\text{Nb}/_{\text{sub } 2}/\text{O}/_{\text{sub } 9}$  linearly increases as the tolerance factor for perovskite-like units of the layer structure rapidly decreases according to the increase of the substitution ion for Pb. A substitution of  $(\text{NaBi})/_{\text{sub } 1}/2/$  for Pb in the solid solution  $\text{Pb}/_{\text{sub } 1-x}/(\text{NaBi})/_{\text{sub } x}/2/\text{Bi}/_{\text{sub } 2}/\text{Nb}/_{\text{sub } 2}/\text{O}/_{\text{sub } 9}$  (PNBN-100x) system gives the elevated  $T_{\text{sub c}}$  and the easy poling process:  $\text{Na}/_{\text{sub } 0.5}/\text{Bi}/_{\text{sub } 2.5}/\text{Nb}/_{\text{sub } 2}/\text{O}/_{\text{sub } 9}$  has a very high Curie temperature of 785 degrees C. The coupling factor  $k/_{\text{sub } 33}$  of the hot-forged PNBN-50 is about 20%. (11 Refs)

2/7/4

DIALOG(R)File 2:INSPEC

(c) 1998 Institution of Electrical Engineers. All rts. reserv.

02693893 INSPEC Abstract Number: A86080922

Title: Growth and investigation of single crystals of  $\text{Bi}/_{\text{sub } 4}/\text{GeVO}/_{\text{sub } 10.5}/$  and  $\text{Bi}/_{\text{sub } 8}/\text{P}/_{\text{sub } 4-x}/\text{Ge}/_{\text{sub } 1+x}/\text{O}/_{\text{sub } 24-x}/2/$

Author(s): Firsov, A.V.; Bush, A.A.; Mirkin, A.E.; Venevtsev, Yu.N.

Author Affiliation: L.Ya. Karpov Sci. Res. Physicochem. Inst., Moscow, USSR

Journal: Kristallografiya vol.30, no.5 p.932-6

Publication Date: Sept.-Oct. 1985 Country of Publication: USSR

CODEN: KRISAJ ISSN: 0023-4761

Translated in: Soviet Physics - Crystallography vol.30, no.5 p.540-3

Publication Date: Sept.-Oct. 1985 Country of Publication: USA

CODEN: SPHCA6 ISSN: 0038-5638

U.S. Copyright Clearance Center Code: 0038-5638/85/050540-04\$03.90

Language: English Document Type: Journal Paper (JP)

Treatment: Experimental (X)

Abstract: By slow cooling of melts the authors have obtained single crystals of the phases  $\text{Bi}/_{\text{sub } 4}/\text{GeVO}/_{\text{sub } 10.5}/$  and  $\text{Bi}/_{\text{sub } 8}/\text{P}/_{\text{sub } 4-x}/\text{Ge}/_{\text{sub } 1+x}/\text{O}/_{\text{sub } 24-x}/2/$  ( $x=0.25$ ). They have monitored the chemical composition of the crystals, and have investigated them by X-ray diffraction, IR spectroscopy, and examination of their dielectric and pyroelectric properties. They have obtained new data on the crystallographic characteristics of the phases, and have found that the crystals exhibit the pyroelectric effect at room temperature. By high-temperature X-ray diffraction, in crystals of the phase  $\text{Bi}/_{\text{sub } 4}/\text{GeVO}/_{\text{sub } 10.5}/$  at 550K they find a first-order phase transition between the orthorhombic and tetragonal forms. The crystals of the phase  $\text{Bi}/_{\text{sub } 4}/\text{GeVO}/_{\text{sub } 10.5}/$  are ferroelectrics with a Curie point of 550K. The crystals of this phase have a similar structure to crystals of bismuth compounds with layered perovskite-like structures. (9 Refs)

2/7/5

DIALOG(R)File 2:INSPEC

(c) 1998 Institution of Electrical Engineers. All rts. reserv.

02666118 INSPEC Abstract Number: A86064258

Title: Thermal expansion data. VIII. Complex oxides, ABO/sub 3/, the perovskites

Author(s): Taylor, D.

Author Affiliation: Fairey Tecramics Ltd., Filleybrooks, Stone, UK

Journal: Transactions and Journal of the British Ceramic Society  
vol.84, no.6 p.181-8

Publication Date: Nov.-Dec. 1985 Country of Publication: UK

CODEN: TJBCAD ISSN: 0307-7357

Language: English Document Type: Journal Paper (JP)

Treatment: Bibliography (B); Theoretical (T)

Abstract: Gives regression data and percentage expansions for the following perovskites: AgNbO/sub 3/, AgTaO/sub 3/, BaBiO/sub 3/, BaFeO/sub 3/, BaPbO/sub 3/, BaSnO/sub 3/, BaTiO/sub 3/, BaZrO/sub 3/, BiFeO/sub 3/, CaMnO/sub 3/, Gd/sub 0.1/WO/sub 3/, KNbO/sub 3/, KTaO/sub 3/, LaAlO/sub 3/, LaCrO/sub 3/, LaMnO/sub 3/, LuCoO/sub 3/, NaMn/sub 7/O/sub 12/, NaNbO/sub 3/, Na/sub 0.8/WO/sub 3/, NdAlO/sub 3/, PbHfO/sub 3/, PbTiO/sub 3/, PbZrO/sub 3/, PrAlO/sub 3/, SrCeO/sub 3/, SrCoO/sub 3/, SrHfO/sub 3/, SrPbO/sub 3/, SrTiO/sub 3/, SrZrO/sub 3/, YCoO/sub 3/, YMnO/sub 3/, YbMnO/sub 3/ and for the perovskite-like compounds LiNbO/sub 3/ and LiTaO/sub 3/. (119 Refs)

2/7/6

DIALOG(R)File 2:INSPEC

(c) 1998 Institution of Electrical Engineers. All rts. reserv.

02650988 INSPEC Abstract Number: A86058958

Title: Formation of single crystals of the perovskite-like ferroelectric Pb(Mg/sub 1/3/Nb/sub 2/3)O/sub 3/

Author(s): Petrovskii, G.T.; Bondar', I.A.; Andreev, E.M.; Koroleva, L.N.

Author Affiliation: I.V. Grebenshchikov Inst. of Silicate Chem., Acad. of Sci., USSR

Journal: Izvestiya Akademii Nauk SSSR, Neorganicheskie Materialy  
vol.20, no.6 p.1067-70

Publication Date: June 1984 Country of Publication: USSR

CODEN: IVNMAW ISSN: 0002-337X

Translated in: Inorganic Materials vol.20, no.6 p.924-6

Publication Date: June 1984 Country of Publication: USA

CODEN: INOMAF ISSN: 0020-1685

U.S. Copyright Clearance Center Code: 0020-1685/84/2006-0924\$08.50

Language: English Document Type: Journal Paper (JP)

Treatment: Experimental (X)

Abstract: Single crystals of LMN were synthesized by spontaneous crystallization from solution in a melt of lead oxide with added boron oxide. By varying the solvent content and the temperature regime over wide ranges, it was established that the optimal conditions from growing single crystals of LMN are 980-1100 degrees C and 50-60 mass % solvent. The resulting single crystals of lead magnesiونيobate, when examined under the microscope, were seen to be isotropic, with good face development and high refractive index  $n=2.60$ . (7 Refs)

2/7/7

DIALOG(R)File 2:INSPEC

(c) 1998 Institution of Electrical Engineers. All rts. reserv.

02640282 INSPEC Abstract Number: A86052249

Title: Sintering and microstructure of bismuth-containing ferroelectric

ceramics

Author(s): Osipyan, V.G.; Freidenfel'd, E.Zh.

Author Affiliation: Riga Polytech. Inst., Latvian SSR, USSR

Journal: Izvestiya Akademii Nauk SSSR, Neorganicheskie Materialy  
vol.20, no.7 p.1211-13

Publication Date: July 1984 Country of Publication: USSR

CODEN: IVNMAW ISSN: 0002-337X

Translated in: Inorganic Materials vol.20, no.7 p.1043-5

Publication Date: July 1984 Country of Publication: USA

CODEN: INOMAF ISSN: 0020-1685

U.S. Copyright Clearance Center Code: 0020-1685/84/2007-1043\$08.50

Language: English Document Type: Journal Paper (JP)

Treatment: Experimental (X)

Abstract: In the study of the sintering kinetics for ceramics based on bismuth-containing ferroelectric compounds with a layer perovskite-like structure, the liquid phase character of the process has been established. By modification and addition of the original oxides over stoichiometry, a substantial reduction of the sintering temperature and expansion of the sintering temperature interval has been achieved for ceramics of compositions  $\text{Bi}/\text{sub } 3/\text{TiNbO}/\text{sub } 9/$  and  $\text{Na}/\text{sub } 0.5/\text{Bi}/\text{sub } 4.5/\text{Ti}/\text{sub } 4/\text{O}/\text{sub } 15/$ . This is explained from the viewpoint of vacancy defect theory. The microstructure of bismuth-containing ferroelectric ceramics is formed from needle-shaped grains; this is due to preferential crystal growth in bismuth-containing compounds along the longer axes of the unit cells in these compounds. (8 Refs)

2/7/8

DIALOG(R)File 2:INSPEC

(c) 1998 Institution of Electrical Engineers. All rts. reserv.

02624075 INSPEC Abstract Number: A86039596

Title: Role of steric factors in ionic mobility processes in compounds having a perovskite-like structure

Author(s): Voronov, V.N.; Aleksandrov, K.S.

Author Affiliation: L.V. Kirenski Inst. of Phys., Acad. of Sci., Krasnoyarsk, USSR

Journal: Fizika Tverdogo Tela vol.27, no.7 p.1968-76

Publication Date: July 1985 Country of Publication: USSR

CODEN: FTVTAC ISSN: 0367-3294

Translated in: Soviet Physics - Solid State vol.27, no.7 p.1182-7

Publication Date: July 1985 Country of Publication: USA

CODEN: SPSSA7 ISSN: 0038-5654

U.S. Copyright Clearance Center Code: 0038-5654/85/071182-06\$03.90

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T); Experimental (X)

Abstract: In the search for new solid electrolytes, an attempt was made at a quantitative allowance for known influences on the mobility. The parameter  $\rho_{ij} = R_{ij} / \sum_{l=1}^3 \sqrt{\alpha_{lj} / n R_{ij}}$  was used, representing intermediate positions of type j for a mobile ion of type i. An analysis of  $\rho_{ij}$  in the case of halides with a perovskite-like structure showed that fluorine anions are much more mobile than cations or the other halogen anions. Ranges of existence were found for the fluorides promising as solid electrolytes, and such compounds were synthesized and investigated. In the elpasolite and cryolite structures,  $\rho_{ij}$  has two values corresponding to the two observed types of motion. A comparison of the temperatures  $T_{ij}$  at which motion begins with the calculated  $\rho_{ij}$  gave an empirical relation  $T_{ij} = T_{mp} - \beta \rho_{ij}$ . No dependence of  $\beta$  approximately = 700 degrees on the kinds of ion circumscribing the intermediate position, or on the type of the mobile ion, was found for any of the compounds studied. (32 Refs)

2/7/9

DIALOG(R)File 2:INSPEC

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02611546 INSPEC Abstract Number: A86033506

Title: Microdomains in the reduction of  $\text{Ca}/\text{sub } 2/\text{LaFe}/\text{sub } 3/\text{O}/\text{sub } 8+z/$

Author(s): Gonzalez-Calbet, J.M.; Vallet-Regi, M.; Alario-Franco, M.A.

Author Affiliation: Dept. de Quimica Inorg., Univ. Complutense, Madrid, Spain

Journal: Journal of Solid State Chemistry vol.60, no.3 p.320-31

Publication Date: Dec. 1985 Country of Publication: USA

CODEN: JSSCBI ISSN: 0022-4596

U.S. Copyright Clearance Center Code: 0022-4596/85\$3.00

Language: English Document Type: Journal Paper (JP)

Treatment: Experimental (X)

Abstract: The reduction of  $\text{Ca}/\text{sub } 2/\text{LaFe}/\text{sub } 3/\text{O}/\text{sub } 8+z/$  in the electron microscope shows this solid to decompose into  $\text{Ca}/\text{sub } 2/\text{Fe}/\text{sub } 2/\text{O}/\text{sub } 5/$  and  $\text{LaFeO}/\text{sub } 3/$ , two perovskite-related line-phases which, under these conditions, appear to be thermodynamically more stable. In kinetic terms, the decomposition appears to be of the nucleation and growth type. Microdomains appear to be an essential characteristic of the system since they are present in both the reactants and the reaction products. Up to nine sets of structurally-related microdomains can simultaneously be present within the same crystal. This leads to quite elaborate electron diffraction patterns which can be interpreted in terms of perovskite superstructures. These results are discussed in terms of diffusion data on perovskite-like ferrites. (16 Refs)

2/7/10

DIALOG(R)File 2:INSPEC

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02600371 INSPEC Abstract Number: A86027018

Title: Crystal-chemical conditions for formation of new layered compounds of bismuth

Author(s): Korzunova, L.V.; Osipyan, V.G.; Shebanov, L.A.; Freidenfel'd, E.Zh.

Journal: Izvestiya Akademii Nauk SSSR, Neorganicheskie Materialy vol.20, no.12 p.2074-6

Publication Date: Dec. 1984 Country of Publication: USSR

CODEN: IVNMAW ISSN: 0002-337X

Translated in: Inorganic Materials vol.20, no.12 p.1813-15

Publication Date: Dec. 1984 Country of Publication: USA

CODEN: INOMAF ISSN: 0020-1685

U.S. Copyright Clearance Center Code: 0020-1685/84/2012-1813\$08.50

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: The family of layered perovskite-like bismuth compounds (LPBC), first discussed by Aurivillius (1949), has the general formula  $(\text{Bi}/\text{sub } 2/\text{O}/\text{sub } 2/)/\text{sup } 2+/(A/\text{sub } n-1/B/\text{sub } n/\text{O}/\text{sub } 3n+1/)/\text{sup } 2-/$  where A is  $\text{Ca}/\text{sub } 2+/, \text{Ba}/\text{sub } 2+/, \text{Pb}/\text{sub } 2+/$  and other ions of the corresponding size; B is  $\text{Ti}/\text{sub } 4+/, \text{Nb}/\text{sub } 5+/, \text{Ta}/\text{sub } 5+/, \text{W}/\text{sub } 6+/$  and other ions capable of forming oxygen octahedra; and  $n=1, 2, 3, \dots$  represents the number of perovskite-like layers between the bismuthyl layers  $(\text{Bi}/\text{sub } 2/\text{O}/\text{sub } 2/)/\text{sup } 2+/. The authors discuss problems arising in the formation of new layered bismuth compounds  $\text{Bi}/\text{sub } 2/A/\text{sub } n-1/B/\text{sub } n/\text{O}/\text{sub } 3n+3/$  from two others with different numbers of perovskite-like layers  $n$ . (11 Refs)$

2/7/117

DIALOG(R)File 2:INSPEC

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00530722 INSPEC Abstract Number: A73043864

Title: The  $\text{SrMnO}/\text{sub } 3\text{-x}/\text{-Mn}/\text{sub } 3/\text{O}/\text{sub } 4/$  system

Author(s): Negas, T.

Author Affiliation: Nat. Bur. Stand., Washington, DC, USA

Journal: Journal of Solid State Chemistry vol.7, no.1 p.85-8

Publication Date: May 1973 Country of Publication: USA

CODEN: JSSCBI ISSN: 0022-4596

Language: English Document Type: Journal Paper (JP)

Treatment: Experimental (X)

Abstract: Phase relations were determined in the  $\text{SrMnO}/\text{sub } 3\text{-x}/\text{-Mn}/\text{sub } 3/\text{O}/\text{sub } 4/$  system at elevated temperatures in air using quenching, gravimetric, and X-ray diffraction techniques. The system contains one intermediate compound,  $\text{SrMn}/\text{sub } 3/\text{O}/\text{sub } 6\text{-x}/$  ( $0 < x < 0.10$  between 900-1200 degrees C), which decomposes to  $\text{SrMnO}/\text{sub } 3\text{-x}/$  plus  $\text{Mn}/\text{sub } 3/\text{O}/\text{sub } 4/$  near 1215 degrees C. The existence of an oxygen deficient  $\text{SrMnO}/\text{sub } 3\text{-x}/$  having the hexagonal 4-layer structure was confirmed. Crystals of perovskite-like  $\text{SrMnO}/\text{sub } 3\text{-x}/$  ( $x > 0.25$ ) were grown from its primary field located in the system.

2/7/118

DIALOG(R)File 2:INSPEC

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00506189 INSPEC Abstract Number: A73027443, B73016495

Title: Mossbauer studies of some perovskite-like layer-type ferroelectrics

Author(s): Sultanov, G.D.; Mirishli, F.A.; Ismailzade, I.H.

Author Affiliation: Inst. Theoretical Problems Chem. Technol., Acad. Sci., Azerbaijan SSR, USSR

Journal: Acta Crystallographica, Section A (Crystal Physics, Diffraction, Theoretical and General Crystallography) vol.A28, pt.4, suppl. p.S241

Publication Date: 15 July 1972 Country of Publication: Denmark

CODEN: ACACBN ISSN: 0567-7394

Conference Title: 9th International Congress of Crystallography of the International Union of Crystallography. Abstracts only

Conference Sponsor: Internat. Union of Crystallography

Conference Date: 26 Aug.-7 Sept. 1972 Conference Location: Kyoto, Japan

Language: English Document Type: Conference Paper (PA); Journal Paper (JP)

Treatment: Experimental (X)

Abstract: In the layer-type ferroelectrics the entrance of the large cations A, having noticeably different from  $\text{Bi}/\text{sup } 3\text{+}/$  polarizability and sizes, into the octahedral emptiness of the perovskite-like packages stipulates changing of the electric field gradient on the nuclei in the oxygen octahedra. This effect has been investigated by the Mossbauer spectra of  $\text{Fe}/\text{sup } 57/$  in the layer-type ferroelectrics  $\text{Bi}/\text{sub } 2/\text{Bi}/\text{sub } 4/\text{Ti}/\text{sub } 3/\text{Fe}/\text{sub } 2/\text{O}/\text{sub } 18/$  (A),  $(\text{PrBi})\text{Bi}/\text{sub } 4/\text{Ti}/\text{sub } 3/\text{Fe}/\text{sub } 2/\text{O}/\text{sub } 18/$  (B),  $\text{Pr}/\text{sub } 2/\text{Bi}/\text{sub } 4/\text{Ti}/\text{sub } 3/\text{Fe}/\text{sub } 2/\text{O}/\text{sub } 18/$  (C) at temperatures between 80 degrees K and 1150 degrees K. For the crystals B and C the weak lines of the magnetic splitting conditioned by some second (Magnetooordered) phase are observed. According to temperature of disappearance of the quadrupole splitting in A, B, and C crystals the Curie temperatures of these ferroelectrics 1075 degrees K, 1050 degrees K and 900 degrees K have been determined. The Mossbauer measurements show some anomalous variation of the isomer shift around the Curie points.

2/7/119

DIALOG(R)File 2:INSPEC

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00504369 INSPEC Abstract Number: A73027007

Title: High pressure synthesis and crystal structure of NaMn/sub 7/0/sub 12/

Author(s): Marezio, M.; Dernier, P.D.; Chenavas, J.; Joubert, J.C.

Author Affiliation: Bell Telephone Labs., Murray Hill, NJ, USA

Journal: Journal of Solid State Chemistry vol.6, no.1 p.16-20

Publication Date: Jan. 1973 Country of Publication: USA

CODEN: JSSCBI ISSN: 0022-4596

Language: English Document Type: Journal Paper (JP)

Treatment: Experimental (X)

Abstract: A new compound, NaMn/sub 7/0/sub 12/ with the perovskite-like arrangement has been synthesized at 80 kbar and 1000 degrees C. This compound is cubic,  $a=7.3036$  AA space group  $Im\bar{3}$  with four formula weights per unit cell. The structure has been solved by Patterson and Fourier synthesis and refined by least-squares based on 142 reflections. The final R and wR factors were 0.025 and 0.033, respectively. The A sites of the perovskite structure are occupied by sodium and manganese atoms in an ordered fashion. The sodium atoms are each surrounded by a 12-oxygen polyhedron whereas the manganese atoms have four nearest oxygens at 1.909 AA forming a square and four more at 2.688 AA forming a rectangle perpendicular to the square. The distortion of the oxygen network from the ideal perovskite structure is similar to that found for In(OH)/sub 3/ and Sc(OH)/sub 3/. (13 Refs)

2/7/120

DIALOG(R)File 2:INSPEC

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00461712 INSPEC Abstract Number: A72084489

Title: Infrared spectra of the rare earth perovskites LZO/sub 3/ (Z=Al, Cr, Fe, Co) (Crystal structure)

Author(s): Couzi, M.; Pham Van Huong

Author Affiliation: Univ. Bordeaux I, Talence, France

Journal: Journal de Chimie Physique et de Physico-Chimie Biologique vol.69, no.9 p.1339-47

Publication Date: Sept. 1972 Country of Publication: France

CODEN: JCPBAN ISSN: 0021-7689

Language: French Document Type: Journal Paper (JP)

Abstract: The infrared spectra, in the range from 800 to 40 cm/sup -1/ of perovskite-like aluminates  $LA\bar{1}O/sub 3/$  where  $L=La, Nd, Gd, Tb, Ho, Er$ , orthochromites  $LCrO/sub 3/$  where  $L=La, Pr, Nd, Sm, Eu, Gd, Tb, Ho, Er, Tm, Yb, Lu$  and some similar compounds have been interpreted in connection with the structure of these crystals and by means of group factor analysis. Correlations have been established between the spectral evolution and the crystal distortion of these ionic compounds. (27 Refs)

2/7/121

DIALOG(R)File 2:INSPEC

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00369712 INSPEC Abstract Number: A72025328

Title: Structural basis of ferroelectricity in the bismuth titanate family

Author(s): Newnham, R.E.; Wolfe, R.W.; Dorrian, J.F.

Author Affiliation: Pennsylvania State Univ., University Park, PA, USA

Journal: Materials Research Bulletin vol.6, no.10 p.1029-40

Publication Date: Oct. 1971 Country of Publication: USA

CODEN: MRBUAC ISSN: 0025-5408

Language: English Document Type: Journal Paper (JP)

Treatment: Experimental (X)

Abstract: More than fifty ferroelectrics belong to the Bi/sub 4/Ti/sub 3/0/sub 12/ family, and all consist of Bi/sub 2/0/sub 2/ layers interleaved with perovskite-like M/sub n-1/R/sub n/0/sub 3n+1/ layers. Crystal structures of three members of the family have been refined from X-ray and

neutron diffraction data, elucidating the distortions responsible for ferroelectricity. Bi/sub 2/WO/sub 6/(n=1) is orthorhombic, space group B2cb; Bi/sub 3/TiNbO/sub 9/ (n=2) orthorhombic, A2/sub 1/am; Bi/sub 4/Ti/sub 3/O/sub 12/ (n=3) monoclinic, Pc, but very nearly orthorhombic, B2cb. Similar distortions occur in all three structures, with large rotational motions accompanying the polarization along a. Below the transition, a strong Bi-O bond is formed to the apex oxygen of the perovskite layer, tilting the octahedra and producing antiparallel shifts along b. Symmetry differences in the even- and odd-layered compounds can be explained by the type of strains produced in the perovskite layer. The octahedral cations (W, Ti, Nb) are the major contributors to the spontaneous polarization, moving about 0.4 AA toward an octahedral edge. (16 Refs)

2/7/122

DIALOG(R)File 2:INSPEC

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00359917 INSPEC Abstract Number: A72019058

Title: The crystal structures of orthorhombic SmAlO/sub 3/ and of trigonal NdAlO/sub 3/

Author(s): Marezio, M.; Dernier, P.D.; Remeika, J.P.

Author Affiliation: Bell Telephone Labs., Murray Hill, NJ, USA

Journal: Journal of Solid State Chemistry vol.4, no.1 p.11-19

Publication Date: Jan. 1972 Country of Publication: USA

CODEN: JSSCBI ISSN: 0022-4596

Language: English Document Type: Journal Paper (JP)

Treatment: Experimental (X)

Abstract: The structures of NdAlO/sub 3/ and SmAlO/sub 3/ have been refined with precision from single crystal X-ray data. Both compounds have the perovskite-like arrangement. In the trigonal NdAlO/sub 3/ (space group R3c) the neodymium atoms have coordination number 12, the average Nd-O distance being 2.660 AA. The aluminum atoms are surrounded by a trigonally distorted octahedron, with an average Al-O distance of 1.896 AA. In the orthorhombic SmAlO/sub 3/, the samarium atoms are surrounded by 12-oxygen polyhedra but the coordination is slightly less than 12. The average Sm-O distance is 2.658 AA. The results indicate that with the orthorhombic to trigonal transition, the distortion of the rare earth polyhedron decreases, whereas that of the aluminium octahedron increases slightly. The overall distortion of the structure decreases. A comparison of the SmAlO/sub 3/ structure with that of its iron counterpart shows that the distortion from the ideal cubic perovskite structure is quite different. Therefore, the two compounds cannot be considered truly isostructural. (17 Refs)

2/7/123

DIALOG(R)File 2:INSPEC

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00310268 INSPEC Abstract Number: A71069671

Title: Investigation of polarization non-linearity near the phase transition in perovskite-like ferroelectrics, using an anharmonic oscillator model

Author(s): Fritsberg, V.Ya.

Book Title: Phase transitions in ferroelectrics p.7-21

Editor(s): Fritsberg, V.Ya.; Rolov, B.N.; Kruchan, Ya.Ya.

Publisher: Zinatne, Riga, Latvia, USSR

Publication Date: 1971 Country of Publication: USSR 205 pp.

Language: Russian Document Type: Book Chapter (BC)

Treatment: Theoretical (T)

Abstract: An analysis of the anharmonic oscillator model, as applied to the unit cell of perovskite-like lattices. The method of Boguslawski has been used to derive a microscopic concept of the coefficients A and B,

expanded in a series of the  $E=AP+BP/\text{sub } 3/$  type, which is extended to the paraelectric state of the ferroelectric. The results are compared with experimental data (of Kirilov et al., Izv.AN SSSR, ser. fiz, 31, 1835, 1967) on the  $(\text{Ba},\text{Sr})\text{TiO}/\text{sub } 3/$  system. (23 Refs)

2/7/124

DIALOG(R)File 2:INSPEC

(c) 1998 Institution of Electrical Engineers. All rts. reserv.

00256308 INSPEC Abstract Number: A71033281

Title: The bond lengths in  $\text{LaFeO}/\text{sub } 3/$

Author(s): Marezio, M.; Dernier, P.D.

Author Affiliation: Bell Telephone Labs. Inc., Murray Hill, NJ, USA

Journal: Materials Research Bulletin vol.6, no.1 p.23-9

Publication Date: Jan. 1971 Country of Publication: USA

CODEN: MRBUAC ISSN: 0025-5408

Language: English Document Type: Journal Paper (JP)

Treatment: Experimental (X)

Abstract: The crystal structure of  $\text{LaFeO}/\text{sub } 3/$  has been refined from X-ray data taken from a highly twinned crystal. The least-squares refinement was carried out on 695 independent reflections which gave an R index of 0.035.  $\text{LaFeO}/\text{sub } 3/$  has the orthorhombic perovskite-like structure, though the rare earth polyhedron is quite distorted relative to the ideal cubic arrangement. The results indicate that in contrast to the other members of the orthoferrite series the coordination number of the lanthanum atoms is no longer 8. The Fe octahedron is only slightly distorted and the average Fe-O and O-O distances are 2.006 AA and 2.837 AA, respectively.

2/7/125

DIALOG(R)File 2:INSPEC

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00230804 INSPEC Abstract Number: A71016204

Title: High-pressure transformations in  $\text{SrGeO}/\text{sub } 3/$ ,  $\text{SrSiO}/\text{sub } 3/$ ,  $\text{BaGeO}/\text{sub } 3/$ , and  $\text{BaSiO}/\text{sub } 3/$

Author(s): Shimizu, Y.; Syono, Y.; Akimoto, S.

Author Affiliation: Univ. Tokyo, Roppongi, Minato-ku, Japan

Journal: High Temperatures - High Pressures vol.2, no.1 p.113-20

Publication Date: 1970 Country of Publication: UK

CODEN: HTHPAK ISSN: 0018-1544

Language: English Document Type: Journal Paper (JP)

Abstract: The stability relations of  $\text{SrGeO}/\text{sub } 3/$ ,  $\text{BaGeO}/\text{sub } 3/$ ,  $\text{SrSiO}/\text{sub } 3/$ , and  $\text{BaSiO}/\text{sub } 3/$  were studied in the range 650-1400 degrees C and 0-120 kbar. The atmospheric-pressure phases of  $\text{SrGeO}/\text{sub } 3/$ ,  $\text{BaGeO}/\text{sub } 3/$ , and  $\text{SrSiO}/\text{sub } 3/$  with the pseudowollastonite structure all transformed to a new phase with pseudo-orthorhombic symmetry at approximately 10-34 kbar. Above 50 kbar, a cubic perovskite structure of  $\text{SrGeO}/\text{sub } 3/$  was obtained. A large density change (46% in total) was observed through the high-pressure transformations of  $\text{SrGeO}/\text{sub } 3/$ .  $\text{BaGeO}/\text{sub } 3/$  was found to transform to 9H-type and 4H-type-like hexagonal perovskite-like structures above 95 kbar. The density increase in the transformation of  $\text{BaGeO}/\text{sub } 3/$  from the pseudowollastonite structure to the perovskite-like structures was approximately 40%. A transformation from the atmospheric-pressure orthorhombic phase to an undetermined structure was found in  $\text{BaSiO}/\text{sub } 3/$  at moderately high pressures. (11 Refs)

2/7/126

DIALOG(R)File 2:INSPEC

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00167649 INSPEC Abstract Number: A70055719

Title: Electron diffraction investigation of phase transformations in thin films of tantalum oxide with perovskite-like structure

Author(s): Khitrova, V.I.; Pinsker, Z.G.

Journal: Kristallografiya vol.15, no.3 p.540-6

Publication Date: May 1970 Country of Publication: USSR

CODEN: KRISAJ ISSN: 0023-4761

Language: Russian Document Type: Journal Paper (JP)

Abstract: The method of electron diffraction structural analysis is applied to the investigation of phases in a series of cubic tantalum oxides with a perovskite-like structure and having a cell period of 7.75 AA. The analysis of the structure is accomplished by section of the three-dimensional Fourier potential series. It is found that because of appreciable change in the coordinates of the oxygen atoms, distortions of the structure occur, and the space group of the structure as a whole is Pmmm. Atomic coordinates are given. (11 Refs)

2/7/127

DIALOG(R)File 2:INSPEC

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53760 INSPEC Abstract Number: A69035241

Title: Structure relations of hexagonal perovskite-like compounds ABX/sub 3/ at high pressure

Author(s): Syono, Y.; Akimoto, S.; Kohn, K.

Author Affiliation: Univ. Tokyo, Roppongi, Minato-ku, Japan

Journal: Journal of the Physical Society of Japan vol.26, no.4 p. 993-9

Publication Date: April 1969 Country of Publication: Japan

CODEN: JUPSAU ISSN: 0031-9015

Language: English Document Type: Journal Paper (JP)

Abstract: Phase stability relations among four hexagonal perovskite-like structures as well as the cubic perovskite structure have been studied for several oxides (BaMnO/sub 3/ and SrMnO/sub 3/) and fluorides (CsMnF/sub 3/, RbNiF/sub 3/ and TlNiF/sub 3/) at high pressure. A series of high pressure transformations are found to occur in the order of the packing sequence along the hexagonal c axis (or cubic 111 axis) of (ab), (ababcbcac), (abac), (abcacb) and (abc) with increasing pressure. This order is corresponding with the increasing order of the proportion of the cubic close-packed layers in the hexagonal close-packed structure. It is suggested that the tolerance factor of the perovskite structure and the Coulomb repulsive force play an important role in determining the crystal structure and its order in the series of phase transformations at high pressure.

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Perovskite type

?s perovskite()type

8133 PEROVSKITE

419473 TYPE

S3 1388 PEROVSKITE()TYPE

?s s3 and py=1969:1985

1388 S3

2642109 PY=1969 : PY=1985

S4 515 S3 AND PY=1969:1985

?t 4/7/1-5,510-515

4/7/1

DIALOG(R)File 2:INSPEC

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02785243 INSPEC Abstract Number: A87007649

Title: X-ray and dielectric characteristics of new antiferroelectrics  
 $\text{Pb}(\text{B}/\text{sub } 1/2/\text{Sb}/\text{sub } 1/2/\text{O}/\text{sub } 3/$

Author(s): Danilenko, I.N.; Politova, E.D.; Abramova, A.N.; Ivanov, S.A.;  
Venevtsev, Yu.N.

Author Affiliation: L.Ya. Karpov Sci.-Res. Phys. Chem. Inst., Moscow,  
USSR

Journal: Izvestiya Akademii Nauk SSSR, Neorganicheskie Materialy  
vol.21, no.8 p.1407-10

Publication Date: Aug. 1985 Country of Publication: USSR

CODEN: IVNMAW ISSN: 0002-337X

Translated in: Inorganic Materials vol.21, no.8 p.1233-6

Publication Date: Aug. 1985 Country of Publication: USA

CODEN: INOMAF ISSN: 0020-1685

U.S. Copyright Clearance Center Code: 0020-1685/85/2108-1233\$09.50

Language: English Document Type: Journal Paper (JP)

Treatment: New Developments (N); Experimental (X)

Abstract: Compounds of the composition  $\text{Pb}(\text{B}/\text{sub } 1/2//\text{sup } 3+/\text{Sb}/\text{sub } 1/2/\text{O}/\text{sub } 3/$  were synthesized, where  $\text{B}/\text{sup } 3+/\text{=Sc, Lu, Yb, Tm, Er, and Ho}$  with a tendency toward the perovskite-type structure. Structural phase transformations were discovered, which are accompanied with anomalous dielectric properties. The new compounds are antiferroelectric with Curie temperatures below 330-458K. (7 Refs)

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DIALOG(R)File 2:INSPEC

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02757758 INSPEC Abstract Number: A86117797

Title: Structural aspects of perovskite-type compounds. Symmetry changes  
in  $\text{SrCeO}/\text{sub } 3/$  and its solid solutions

Author(s): de Pretis, A.; Minichelli, D.; Ricciardiello, F.

Author Affiliation: Istituto di Chimica Applicata e Ind., Trieste Univ.,  
Italy

Journal: Revue Internationale des Hautes Temperatures et des Refractaires  
vol.22, no.3-4 p.215-19

Publication Date: 1985 Country of Publication: France

CODEN: RIHTAV ISSN: 0035-3434

Language: English Document Type: Journal Paper (JP)

Treatment: Experimental (X)

Abstract: Many  $\text{ABO}/\text{sub } 3/$  perovskite-type compounds exhibit an orthorhombic symmetry with  $a \approx b$  and  $c \approx \sqrt{2}a$ . An important exception is the compound  $\text{SrCeO}/\text{sub } 3/$  which exhibits a strongly distorted perovskite-type structure with  $2a \approx b$ . However, the doubling of the  $b$  axis in  $\text{SrCeO}/\text{sub } 3/$  disappears both in the  $\text{SrCeO}/\text{sub } 3/-\text{SrZrO}/\text{sub } 3/$  and in the  $\text{SrCeO}/\text{sub } 3/-\text{BaZrO}/\text{sub } 3/$  solid solutions in all the compositions differing from the stoichiometric  $\text{SrCeO}/\text{sub } 3/$ . (8 Refs)

4/7/3

DIALOG(R)File 2:INSPEC

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02730414 INSPEC Abstract Number: A86104414

Title: New seignettomagnets with perovskite type structure

Author(s): Venevtsev, Yu.N.; Zhitomirsky, I.D.; Gagulin, V.V.;  
Sevastyanova, L.G.; Burdina, K.P.

Author Affiliation: L.Ya. Karpov Inst. of Phys. Chem., Moscow, USSR

Journal: Japanese Journal of Applied Physics, Supplement vol.24,  
suppl.24-2 p.1063-5

Publication Date: 1985 Country of Publication: Japan

CODEN: JJPYA5 ISSN: 0021-4922  
Conference Title: Proceedings of the Sixth International Meeting on  
Ferroelectricity  
Conference Sponsor: IUPAP; Int. Union Crystallogr.; Crystallogr. Soc.  
Japan  
Conference Date: 12-16 Aug. 1985 Conference Location: Kobe, Japan  
Language: English Document Type: Conference Paper (PA); Journal Paper  
(JP)  
Treatment: Experimental (X)  
Abstract: Physical properties and phase transitions of 10 complex metal  
oxides of perovskite type have been studied. Some of them have been  
identified as seignettomagnets, ferrimagnets, antiferromagnets. (10 Refs)

4/7/4  
DIALOG(R)File 2:INSPEC  
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02722533 INSPEC Abstract Number: B86053876  
Title: New ceramic electrode for piezoelectric buzzer  
Author(s): Nomura, S.; Yoshino, H.; Yamashita, Y.  
Author Affiliation: Toshiba Res. & Dev. Center, Toshiba Corp., Kawasaki,  
Japan  
Journal: Japanese Journal of Applied Physics, Supplement vol.24,  
suppl.24-2 p.736-8  
Publication Date: 1985 Country of Publication: Japan  
CODEN: JJPYA5 ISSN: 0021-4922  
Conference Title: Proceedings of the Sixth International Meeting on  
Ferroelectricity  
Conference Sponsor: IUPAP; Int. Union Crystallogr.; Crystallogr. Soc.  
Japan  
Conference Date: 12-16 Aug. 1985 Conference Location: Kobe, Japan  
Language: English Document Type: Conference Paper (PA); Journal Paper  
(JP)  
Treatment: Practical (P); Experimental (X)  
Abstract: Electrically conductive oxide electrodes were investigated, and  
the piezoelectric characteristics were measured for lead zirconate titanate  
(PZT) resonator with the conductive oxide electrodes. Printable pastes were  
made using conductive oxides having perovskite type structure, such as  
BaPbO/sub 3/, BaPb/sub 1.2/O/sub 3/, BaPb/sub 0.8/Bi/sub 0.2/O/sub 3/,  
BaPb/sub 0.8/Sb/sub 0.2/O/sub 3/ and La/sub 0.5/Sr/sub 0.5/CoO/sub 3/, with  
glass frits and organic vehicles. the electrical resistivities of these  
pastes were measured at room temperature by four probe method, which were  
1.4\*10/sup -2/ ohm-cm for BaPbO/sub 3/ paste and 2.3\*10/sup -2/ ohm-cm for  
La/sub 0.5/Sr/sub 0.5/CoO/sub 3/ paste. The piezoelectric resonators were  
obtained with Kp=39%, tan delta =3.2% and C=24nF for an electrode of  
BaPbO/sub 3/ paste and with Kp=31%, tan delta =6.8% and C=39nF for an  
electrode of La/sub 0.5/Sr/sub 0.5/CoO/sub 3/ paste. (8 Refs)

4/7/5  
DIALOG(R)File 2:INSPEC  
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02722499 INSPEC Abstract Number: A86093928, B86055736  
Title: Optical detector using superconducting BaPb/sub 0.7/Bi/sub  
0.3/O/sub 3/ (BPB) thin films  
Author(s): Enomoto, Y.; Murakami, T.  
Author Affiliation: Ibaraki Electr. Commun. Lab., NTT, Ibaraki, Japan  
Journal: Japanese Journal of Applied Physics, Supplement vol.24,  
suppl.24-2 p.471-3  
Publication Date: 1985 Country of Publication: Japan  
CODEN: JJPYA5 ISSN: 0021-4922  
Conference Title: Proceedings of the Sixth International Meeting on

Ferroelectricity

Conference Sponsor: IUPAP; Int. Union Crystallogr.; Crystallogr. Soc. Japan

Conference Date: 12-16 Aug. 1985 Conference Location: Kobe, Japan

Language: English Document Type: Conference Paper (PA); Journal Paper (JP)

Treatment: Experimental (X)

Abstract: Highly sensitive optical detectors have been fabricated by using perovskite type superconductor BaPb/sub 0.7/Bi/sub 0.3/O/sub 3/ (BPB) thin films. Optical signals create quasi-particles and induce changes in the superconducting order parameter. These changes are measured by tunneling junctions along grain boundaries in the BPB polycrystalline thin films. The sensitivity is about  $10^3$  V/W in the 1.0 approximately 10  $\mu$  m wavelength range and they can respond up to 600 MHz at the wavelength of 3.2  $\mu$  m. The observed results suggest that the BPB detectors are suitable for application in optical communication systems and infrared spectrometers. (7 Refs)

4/7/510

DIALOG(R)File 2:INSPEC

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00070494 INSPEC Abstract Number: A69045389

Title: Millimeter wave e.s.r. studies of ferric iron in perovskite-type oxides

Author(s): Pontin, R.G.; Slade, E.F.; Ingram, D.J.E.

Author Affiliation: Univ. Keele, UK

Journal: Journal of Physics C (Solid State Physics) vol.2, no.7 p. 1146-50

Publication Date: July 1969 Country of Publication: UK

CODEN: JPSOAW ISSN: 0022-3719

Language: English Document Type: Journal Paper (JP)

Abstract: The paramagnetic resonance spectrum of Fe/sub 3+/ in lead and strontium titanates has been studied at Q band and 70GHz, and at temperatures down to 4.2 degrees K. The zero-field splittings have been measured directly giving values of  $1.06 \pm 0.05$  cm/sup -1/ for lead titanate at room temperature and  $2.698 \pm 0.006$  cm/sup -1/ for strontium titanate. The spectrum for lead titanate can be fitted to a spin Hamiltonian with  $g/\text{mod mod } i = 2.0$ ,  $D = 0.53$  cm/sup -1/ and  $a = 2.70 \pm 10$  cm/sup -2/ cm/sup -1/ and a 20% increase in the zero-field splitting parameter is observed on cooling from room temperature to 77 degrees K indicating a small lattice deformation. A second transition tentatively identified as arising from a charge-compensated site having a zero-field splitting equal to  $1.8 \pm 0.1$  cm/sup -1/, has also been observed. The spectrum for strontium titanate has been studied at 35GHz and 70GHz and it is found that the Hamiltonian parameters differ slightly from those previously determined from the 10 GHz spectrum. (11 Refs)

4/7/511

DIALOG(R)File 2:INSPEC

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00063513 INSPEC Abstract Number: A69043103

Title: Characteristic features of the dielectric polarization of ferroelectric solid solutions with the perovskite-type structure at the morphotropic phase boundary and far from it

Author(s): Stolypin, Yu.E.; Isupov, V.A.

Journal: Fizika Tverdogo Tela vol.11, no.3 p.823-5

Publication Date: March 1969 Country of Publication: USSR

CODEN: FTVTAC ISSN: 0367-3294

Translated in: Soviet Physics - Solid State

Country of Publication: USA



CODEN: SPSSA7 ISSN: 0038-5654

Language: Russian Document Type: Journal Paper (JP)

Abstract: The permittivity of solid solutions  $(1-x)(0.6\text{PbTiO}/\text{sub } 3/+0.4\text{PbMg}/\text{sub } 0.5/\text{W}/\text{sub } 0.5/\text{O}/\text{sub } 3/)+x\text{PbZrO}/\text{sub } 3/$  was determined in static electric fields up to 20 kV/cm. It was found that the solutions near a morphotropic (vertical) phase boundary, separating the ferroelectric (tetragonal,  $x < 0.30$ ) and paraelectric (rhombohedral,  $x > 0.30$ ) compositions, exhibited different field dependences of the permittivity from the solutions far from this boundary. This was attributed to the coexistence of mixed tetragonal and rhombohedral phases near the morphotropic boundary and subsequent formation of boundaries between these phases.

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DIALOG(R)File 2:INSPEC

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00063406 INSPEC Abstract Number: A69042939

Title: Phase composition of reduced and reoxidized barium titanate

Author(s): Arend, H.; Kihlborg, L.

Author Affiliation: Czechoslovak Academy Sci., Prague, Czechoslovakia

Journal: Journal of the American Ceramic Society vol.52, no.2 p. 63-5

Publication Date: 21 Feb. 1969 Country of Publication: USA

CODEN: JACTAW ISSN: 0002-7820

Language: English Document Type: Journal Paper (JP)

Abstract: Reducing high-purity  $\text{BaTiO}/\text{sub } 3/$  in hydrogen for 1 h at 1275 degrees C leads to an oxygen deficiency  $x = 0.0036$  in  $\text{BaTiO}/\text{sub } 3-x/$  with maintenance of the tetragonal/cubic perovskite-type structure. Reduction at 1325 degrees C leads to  $x = 0.0073$  and brings about transformation to the hexagonal modification. Up to 1500 degrees C ( $x = 0.0233$ ) no further phase change occurs. Annealing the oxygen-deficient hexagonal phase in oxygen at 850 degrees C for 2 h produces stoichiometric samples which are still hexagonal, whereas the tetragonal/cubic structure is restored by heating for 1 h at 1350 degrees C. (16 Refs)

4/7/513

DIALOG(R)File 2:INSPEC

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00063265 INSPEC Abstract Number: A69042795

Title: Perovskite type structures of aluminates of rare-earth elements

Author(s): Margolis, N.V.; Udalov, Yu.P.

Journal: Kristallografiya vol.14, no.2 p.334-6

Publication Date: March 1969 Country of Publication: USSR

CODEN: KRISAJ ISSN: 0023-4761

Language: Russian Document Type: Journal Paper (JP)

Abstract: Calculations are made of the maximum relative displacement and of the force acting on the anion in rare-earth aluminates for rhombohedral and tetragonal lattice distortion. The results are plotted against the radius of the lanthanide ion; the curves are discussed, and it is concluded that rare-earth aluminates with the perovskite structure and rhombohedral lattice distortion can exist between ionic radii of 0.942 and 0.91 AA.

4/7/514

DIALOG(R)File 2:INSPEC

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00060163 INSPEC Abstract Number: A69039211

Title: Crystal growth and phase transitions of  $\text{CsPbCl}/\text{sub } 3/$

Author(s): Hirotsu, S.; Sawada, S.

Author Affiliation: Tokyo Inst., Technology, Japan

Journal: Physics Letters A vol.28a, no.11 p.762-3  
 Publication Date: 10 March 1969 Country of Publication: Netherlands  
 CODEN: PYLAAG ISSN: 0375-9601  
 Language: English Document Type: Journal Paper (JP)  
 Abstract: Three phase transitions were confirmed in the perovskite-type crystal CsPbCl/sub 3/ by observing changes of conoscopic figures with temperature. Measurements of the temperature dependence of birefringence and specific heat were also performed.

4/7/515  
 DIALOG(R)File 2:INSPEC  
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00041801 INSPEC Abstract Number: A69028558  
 Title: Correction of dipole field due to lattice deformation of a Perovskite-type crystal  
 Author(s): Kinase, W.; Uemura, Y.; Kikuchi, M.  
 Author Affiliation: Univ., Nishiokubo, Shinjuku, Tokyo, Japan  
 Journal: Journal of the Physics and Chemistry of Solids vol.30, no.2 p.441-7  
 Publication Date: Feb. 1969 Country of Publication: UK  
 CODEN: JPCSAW ISSN: 0022-3697  
 Language: English Document Type: Journal Paper (JP)  
 Abstract: Correction of Lorentz field coefficients in a Perovskite- type crystal is discussed by considering orthorhombic deformation of a simple cubic lattice. If one considers the deformation of crystal structure from the simple cubic lattice to the orthorhombic lattice a change of the internal field at some respective points caused by the dipole interaction is calculated. By applying the results, quantitative discussions are possible for many phenomena accompanied by the lattice deformation namely, ferroelectricity, piezoelectricity, photoelasticity and so on. As an example calculations are made to estimate the birefringences of the BaTiO/sub 3/ and WO/sub 3/ crystals.

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Perovskite like in books

S1	1	perovskite-like
S2	134	perovskite
S3	57219	like
S4	1	(perovskite-like) or (perovskite w like)

5=> f s4 and yr < 1986

#### S E A R C H R E S U L T S

Search ID	Records Found	Search Term
S5	1	s4 and yr < 1986

6=> d s5 1 f8

Record 1 of 1  
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 Page: 1 of 1

AN: 9198569

AU: Moller, Christian Knakkergerd.  
 TI: The structure of perovskite-like caesium plumbo trihalides  
 YR: 1959  
 PB: Munksgaard,  
 PL: Kobenhavn :  
 SE: Matematisk-fysiske meddelelser / udgivet af det Kongelige Danske  
 videnskabernes selskab ; bd. 32, nr. 2  
 LN: English  
 PT: Book  
 PH: 27 p. : ill. ; 24 cm.

\*\*\*\*\*

Perovskite type

6=> f (perovskite-type) or (perovskite w type)

# S E A R C H R E S U L T S

Search ID	Records Found	Search Term
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S6	25	perovskite-type
S7	134	perovskite
S8	82277	type
S9	30	(perovskite-type) or (perovskite w type)

10=> f s9 and yr < 1986

Searching ...

# S E A R C H R E S U L T S

Search ID	Records Found	Search Term
-----	-----	-----
S10	13	s9 and yr < 1986

11=> d s10 1-13 f8

R e c o r d 1 o f 13

Copyright 1998 OCLC

AN: 31493896  
 AU: Galasso, Francis S.  
 TI: Structure, properties, and preparation of perovskite-type compounds  
 YR: 1969  
 PB: Pergamon Press,  
 PL: Oxford ; New York :  
 SE: International series of monographs in solid state physics ; v. 5  
 LN: English  
 PT: Book  
 PH: x, 207 p. : ill.

R e c o r d 2 o f 13

Copyright 1998 OCLC

AN: 31119286  
 AU: Karian, Harutun G.  
 TI: Tight-binding energy bands of perovskite type transition metal oxides  
 YR: 1969

LN: English  
PT: Book  
PH: 264 leaves : ill. ; 29 cm.

R e c o r d 3 o f 13  
Copyright 1998 OCLC

AN: 30202456  
AU: Kay, Herbert Frederick.  
TI: Growing of perovskite-type crystals.  
YR: 1954  
PB: British Electrical & Allied Industries Research Association,  
SE: British Electrical & Allied Industries Research Association. Technical  
reports ; L/T303  
LN: English  
PT: Book  
PH: 11 p. : ill. ; 29 cm.

R e c o r d 4 o f 13  
Copyright 1998 OCLC

AN: 27705140  
AU: Jonkers, G. H.  
TI: The dielectric properties of titanates of the perovskite type.  
YR: ? 1947 1993  
SK: 92-18028 NTC  
LN: English  
PT: Book  
PH: 15 p.

R e c o r d 5 o f 13  
Copyright 1998 OCLC

AN: 27440633  
AU: Li, W.  
TI: Rare earth perovskite-type catalysts and hopcalite.  
YR: ? 1985 1993  
SK: 92-17440 NTC  
LN: English  
PT: Book  
PH: 15 p.

R e c o r d 6 o f 13  
Copyright 1998 OCLC

AN: 26422718  
TI: A Process for production of perovskite type oxide powder containing  
zirconium.  
YR: ? 1984 1990  
SK: 89-15770 NTC  
LN: English  
PT: Book  
PH: 6 p.

R e c o r d 7 o f 13  
Copyright 1998 OCLC

AN: 26419114  
TI: A Process for production of perovskite-type lead-containing composite

oxide.  
YR: ? 1985 1990  
SK: 89-14970 NTC  
LN: English  
PT: Book  
PH: 37 p.

R e c o r d 8 o f 13  
Copyright 1998 OCLC

AN: 26413442  
AU: Dougier, P.  
TI: Study of the magnetic, electrical and optical properties of the  
perovskite-type phases of strontium vanadate ( SrVO<sub>2</sub>.  
YR: ? 1975 1992  
SK: 92-10366 NTC  
LN: English  
PT: Book  
PH: 16 p.

R e c o r d 9 o f 13  
Copyright 1998 OCLC

AN: 14161872  
AU: Nelson, Carl W.  
TI: Ferroelectricity and the chemical bond in perovskite-type oxides  
YR: 1963  
PB: Laboratory for Insulation Research, Massachusetts Institute of  
Technology,  
PL: Cambridge, Mass. :  
SE: Technical report / Laboratory for Insulation Research, Massachusetts  
Institute of Technology ; 179  
LN: English  
PT: Book  
PH: 31 p. : ill. ; 28 cm.

R e c o r d 10 o f 13  
Copyright 1998 OCLC

AN: 10986161  
AU: Otagawa, Takaaki, 1953-  
TI: Electrocatalysis of oxygen evolution of perovskite-type oxides  
YR: 1983  
LN: English  
PT: Book  
PH: xxii, 334 leaves : ill. ; 29 cm.

R e c o r d 11 o f 13  
Copyright 1998 OCLC

AN: 6020262  
AU: Michel, Christian Gabriel, 1939-  
TI: Structures and relationships of some Perovskite-Type compounds.  
YR: 1970  
LN: English  
PT: Book  
PH: 89 p.

R e c o r d 12 o f 13

Copyright 1998 OCLC

AN: 5684064  
AU: Bents, Ulrich H.  
TI: A neutron diffraction study of the magnetic structure for the  
perovskite-type mixed oxides  $\text{La}(\text{Mn},\text{Cr})\text{O}_3$  and  $(\text{La},\text{Sr})\text{FeO}_3$ .  
YR: 1956  
PL: [College Station, Tex.]  
LN: English  
PT: Book  
PH: 85 l. illus.

Record 13 of 13  
Copyright 1998 OCLC

AN: 542300  
AU: Galasso, Francis S.  
TI: Structure, properties, and preparation of perovskite-type compounds.  
YR: 1969  
PB: Pergamon Press  
PL: Oxford, New York,  
SE: International series of monographs in solid state physics, v.5  
LN: English  
PT: Book  
PH: 207 p.

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